

 PALM IntranetApplication Number

IDS Flag Clearance for Application 10772370

 IDS
Information

| Content | Mailroom Date | Entry Number | IDS Review | Last Modified | Reviewer |
|---------------------------------------|---------------|--------------|---------------------------------------|-----------------------|----------|
| WIDS | 2004-05-17 | 18 | Y <input checked="" type="checkbox"/> | 2007-06-22 08:09:47.0 | CNguyen1 |
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L1: Entry 1 of 10

File: PGPB

Nov 25, 2004

PGPUB-DOCUMENT-NUMBER: 20040231634
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040231634 A1

TITLE: Control system for cylinder cut-off internal combustion engine

PUBLICATION-DATE: November 25, 2004

INVENTOR-INFORMATION:

| NAME | CITY | STATE | COUNTRY |
|--------------------|---------|-------|---------|
| Sen, Naoto | Saitama | | JP |
| Okada, Tadayoshi | Saitama | | JP |
| Sugiyama, Akira | Saitama | | JP |
| Nishida, Kenichi | Saitama | | JP |
| Tomokuni, Yasuhiko | Saitama | | JP |

ASSIGNEE-INFORMATION:

| NAME | CITY | STATE | COUNTRY | TYPE CODE |
|-----------------------|------|-------|---------|-----------|
| HONDA MOTOR CO., LTD. | | | | 03 |

APPL-NO: 10/844033 [PALM]
DATE FILED: May 11, 2004

FOREIGN-APPL-PRIORITY-DATA:

| COUNTRY | APPL-NO | DOC-ID | APPL-DATE |
|---------|---------------|----------------------|--------------|
| JP | JP2003-138720 | 2003JP-JP2003-138720 | May 16, 2003 |

INT-CL-PUBLISHED: [07] F02B 75/16

INT-CL-CURRENT:

| TYPE | IPC | DATE |
|------|--------------------|----------|
| CIPS | <u>F02 D 17/00</u> | 20060101 |
| CIPS | <u>F02 D 17/02</u> | 20060101 |
| CIPS | <u>F02 D 41/02</u> | 20060101 |
| CIPS | <u>F02 D 41/36</u> | 20060101 |
| CIPS | <u>F02 D 13/06</u> | 20060101 |
| CIPS | <u>F02 D 41/32</u> | 20060101 |

US-CL-PUBLISHED: 123/198.00F
US-CL-CURRENT: 123/198F

REPRESENTATIVE-FIGURES: 1

ABSTRACT:

In a control system for an internal combustion engine having a plurality of cylinders whose operation of the engine can be switched between full-cylinder operation during which all of the cylinders are operative and cut-off-cylinder operation during which some of the cylinders are non-operative, and running control, i.e., either cruise control during which the vehicle is controlled to run at a desired vehicle velocity or preceding vehicle follow-up control during which the vehicle is controlled to run at a desired vehicle velocity to maintain a desired inter-vehicle distance from a preceding vehicle, is performed in response to an instruction of an operator, it is judged whether a velocity error between a detected vehicle velocity and the desired vehicle velocity and load of the engine are equal to or smaller than corresponding threshold values. If the result is affirmative when the running control is in progress, it is determined that running condition of the vehicle is stable and the engine operation is switched to the cut-off-cylinder operation, thereby preventing a control hunting from happening, while ensuring to improve fuel consumption by utilizing the cut-off-cylinder operation as much as possible.

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File: PGPB

Aug 26, 2004

PGPUB-DOCUMENT-NUMBER: 20040163866

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20040163866 A1

TITLE: Control system for cylinder cut-off internal combustion engine

PUBLICATION-DATE: August 26, 2004

INVENTOR-INFORMATION:

| NAME | CITY | STATE | COUNTRY |
|--------------------|----------|-------|---------|
| Sen, Naoto | Wako-shi | | JP |
| Okada, Tadayoshi | Wako-shi | | JP |
| Sugiyama, Akira | Wako-shi | | JP |
| Nishida, Kenichi | Wako-shi | | JP |
| Tomokuni, Yasuhiko | Wako-shi | | JP |
| Ishiyama, Mahito | Wako-shi | | JP |
| Yamashita, Kazuo | Wako-shi | | JP |

ASSIGNEE-INFORMATION:

| NAME | CITY | STATE | COUNTRY | TYPE CODE |
|-----------------------|------|-------|---------|-----------|
| HONDA MOTOR CO., LTD. | | | | 03 |

APPL-NO: 10/781680 [PALM]

DATE FILED: February 20, 2004

FOREIGN-APPL-PRIORITY-DATA:

| COUNTRY | APPL-NO | DOC-ID | APPL-DATE |
|---------|---------------|----------------------|-------------------|
| JP | JP2003-049877 | 2003JP-JP2003-049877 | February 26, 2003 |

INT-CL-PUBLISHED: [07] B60K 31/04

INT-CL-CURRENT:

| TYPE | IPC | DATE |
|------|--------------------|----------|
| CIPS | <u>B60 K 31/02</u> | 20060101 |
| CIPS | <u>F02 D 13/06</u> | 20060101 |
| CIPS | <u>B60 K 31/04</u> | 20060101 |
| CIPS | <u>F02 D 13/04</u> | 20060101 |
| CIPS | <u>F02 D 17/00</u> | 20060101 |
| CIPS | <u>F02 D 41/12</u> | 20060101 |
| CIPS | <u>F02 D 41/32</u> | 20060101 |
| CIPS | <u>F02 D 17/02</u> | 20060101 |
| CIPS | <u>F02 D 41/36</u> | 20060101 |

US-CL-PUBLISHED: 180/179

US-CL-CURRENT: 180/179

REPRESENTATIVE-FIGURES: 1

ABSTRACT:

In a control system for an internal combustion engine having a plurality of cylinders and mounted on a vehicle, in which the engine operation is switched based on the throttle opening between a full-cylinder operation in which all of the cylinders are operative and a cut-off cylinder operation in which some of the cylinders are inoperative, and a running control including at least a cruise control in which the vehicle runs at a desired vehicle velocity is conducted, the engine operation is switched to the full-cylinder operation when it is determined that deceleration is required in the running control, so as to increase pumping loss (engine loss). With this, it becomes possible to generate the deceleration sufficiently as desired, when, for example, the vehicle descends a downhill.

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File: USPT

Jan 24, 2006

US-PAT-NO: 6988481

DOCUMENT-IDENTIFIER: US 6988481 B2'

TITLE: Control system for cylinder cut-off internal combustion engine

DATE-ISSUED: January 24, 2006

PRIOR-PUBLICATION:

DOC-ID

DATE

US 20040231634 A1

November 25, 2004

INVENTOR-INFORMATION:

| NAME | CITY | STATE | ZIP CODE | COUNTRY |
|--------------------|------|-------|----------|---------|
| Sen; Naoto | Wako | | | JP |
| Okada; Tadayoshi | Wako | | | JP |
| Sugiyama; Akira | Wako | | | JP |
| Nishida; Kenichi | Wako | | | JP |
| Tomokuni; Yasuhiko | Wako | | | JP |

ASSIGNEE-INFORMATION:

| NAME | CITY | STATE | ZIP CODE | COUNTRY | TYPE CODE |
|-----------------------|-------|-------|----------|---------|-----------|
| Honda Motor Co., Ltd. | Tokyo | | | JP | 03 |

APPL-NO: 10/844033 [PALM]

DATE FILED: May 11, 2004

FOREIGN-APPL-PRIORITY-DATA:

| COUNTRY | APPL-NO | APPL-DATE |
|---------|-------------|--------------|
| JP | 2003-138720 | May 16, 2003 |

INT-CL-ISSUED:

| TYPE | IPC | DATE | IPC-OLD |
|------|-----------|----------|------------|
| IPCP | F02D17/00 | 20060101 | F02D017/00 |

INT-CL-CURRENT:

| TYPE | IPC | DATE |
|------|-------------|----------|
| CIPP | F02 D 17/00 | 20060101 |

US-CL-ISSUED: 123/198F; 123/349

US-CL-CURRENT: 123/198F; 123/349

FIELD-OF-CLASSIFICATION-SEARCH: 123/198F, 123/338.19, 123/349, 123/350, 123/351,

123/352, 123/359, 123/364, 123/394, 123/319, 123/339.1, 123/339.16

See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected

Search ALL

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| PAT-NO | ISSUE-DATE | PATENTEE-NAME | US-CL |
|--|----------------|-----------------|----------|
| <input type="checkbox"/> <u>4742462</u> | May 1988 | Fujimori et al. | 701/111 |
| <input type="checkbox"/> <u>5267541</u> | December 1993 | Taguchi et al. | 123/198F |
| <input type="checkbox"/> <u>6341594</u> | January 2002 | Linden | 123/352 |
| <input type="checkbox"/> <u>6470851</u> | October 2002 | DeGroot et al. | 123/323 |
| <input type="checkbox"/> <u>6484686</u> | November 2002 | Ordanic | 123/198F |
| <input type="checkbox"/> <u>6619258</u> | September 2003 | McKay et al. | 123/350 |
| <input type="checkbox"/> <u>6655353</u> | December 2003 | Rayl | 123/436 |
| <input type="checkbox"/> <u>2003/0131820</u> | July 2003 | McKay et al. | 123/198F |
| <input type="checkbox"/> <u>2005/0065709</u> | March 2005 | Cullen | 701/112 |

FOREIGN PATENT DOCUMENTS

| FOREIGN-PAT-NO | PUBN-DATE | COUNTRY | CLASS |
|----------------|---------------|---------|-------|
| 54-133222 | October 1979 | JP | |
| 05-071634 | March 1993 | JP | |
| 09-290665 | November 1997 | JP | |
| 10-103097 | April 1998 | JP | |

ART-UNIT: 3747

PRIMARY-EXAMINER: Yuen; Henry C.

ASSISTANT-EXAMINER: Benton; Jason

ATTY-AGENT-FIRM: O'Melveny & Myers LLP

ABSTRACT:

In a control system for an internal combustion engine having a plurality of cylinders whose operation of the engine can be switched between full-cylinder operation during which all of the cylinders are operative and cut-off-cylinder operation during which some of the cylinders are non-operative, and running control, i.e., either cruise control during which the vehicle is controlled to run at a desired vehicle velocity or preceding vehicle follow-up control during which the vehicle is controlled to run at a desired vehicle velocity to maintain a desired inter-vehicle distance from a preceding vehicle, is performed in response

to an instruction of an operator, it is judged whether a velocity error between a detected vehicle velocity and the desired vehicle velocity and load of the engine are equal to or smaller than corresponding threshold values. If the result is affirmative when the running control is in progress, it is determined that running condition of the vehicle is stable and the engine operation is switched to the cut-off-cylinder operation, thereby preventing a control hunting from happening, while ensuring to improve fuel consumption by utilizing the cut-off-cylinder operation as much as possible.

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File: PGPB

Aug 12, 2004

PGPUB-DOCUMENT-NUMBER: 20040158383
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040158383 A1

TITLE: Control system for cylinder cut-off internal combustion engine

PUBLICATION-DATE: August 12, 2004

INVENTOR-INFORMATION:

| NAME | CITY | STATE | COUNTRY |
|--------------------|----------|-------|---------|
| Sen, Naoto | Wako-shi | | JP |
| Okada, Tadayoshi | Wako-shi | | JP |
| Sugiyama, Akira | Wako-shi | | JP |
| Nishida, Kenichi | Wako-shi | | JP |
| Tomokuni, Yasuhiko | Wako-shi | | JP |

ASSIGNEE-INFORMATION:

| NAME | CITY | STATE | COUNTRY | TYPE CODE |
|-----------------------|------|-------|---------|-----------|
| HONDA MOTOR CO., LTD. | | | | 03 |

APPL-NO: 10/772370 [PALM]
DATE FILED: February 6, 2004

FOREIGN-APPL-PRIORITY-DATA:

| COUNTRY | APPL-NO | DOC-ID | APPL-DATE |
|---------|---------------|----------------------|------------------|
| JP | JP2003-030812 | 2003JP-JP2003-030812 | February 7, 2003 |
| JP | JP2003-136954 | 2003JP-JP2003-136954 | May 15, 2003 |

INT-CL-PUBLISHED: [07] B60K 31/00

INT-CL-CURRENT:

| TYPE | IPC | DATE |
|------|--------------------|----------|
| CIPS | <u>F02 D 41/02</u> | 20060101 |
| CIPS | <u>F02 D 41/32</u> | 20060101 |
| CIPS | <u>F02 D 41/36</u> | 20060101 |
| CIPS | <u>B60 K 31/00</u> | 20060101 |

US-CL-PUBLISHED: 701/096; 701/110
US-CL-CURRENT: 701/96; 701/110

REPRESENTATIVE-FIGURES: 2

ABSTRACT:

In a control system for an internal combustion engine having a plurality of cylinders and mounted on a vehicle, in which the engine operation is switched based on the throttle opening between a full-cylinder operation in which all of the cylinders are operative and a cut-off cylinder operation in which some of the cylinders are inoperative, and a running control including a cruise control in which the vehicle runs at a desired vehicle velocity and a preceding vehicle follow-up control in which the vehicle runs at a desired vehicle velocity to maintain a desired inter-vehicle distance from a preceding vehicle are conducted. In the system, an acceleration suppression control is conducted if the engine operation is switched from the cut-off cylinder operation to the full-cylinder operation when the running control is in progress. With this, sharp or drastic acceleration accompanying torque fluctuation is effectively avoided, when the engine operation is switched to the full-cylinder operation.

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